STATE OF SOUTH CAROLINA)
)
(Caption of Case))
In the Matter of:)
)
Application of Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs)
)
)
)
)

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

COVER SHEET

DOCKET NUMBER: 2007 - 358 - E

(Please type or print)

Submitted by: J. Blanding Holman, IV
SC Bar Number: 72260
Address: Southern Environmental Law Center
200 W. Franklin Street, Suite 330
Chapel Hill, NC 27516
Telephone: (919)967-1450
Fax: (919)929-9421
Other:
Email: BHolman@SELCNC.org

NOTE: The cover sheet and information contained herein neither replaces nor supplements the filing and service of pleadings or other papers as required by law. This form is required for use by the Public Service Commission of South Carolina for the purpose of docketing and must be filled out completely.

DOCKETING INFORMATION (Check all that apply)

☐ **Emergency Relief demanded in petition** ☐ **Request for item to be placed on Commission's Agenda expeditiously**

☐ **Other:**

INDUSTRY (Check one)

- ☒ Electric
- ☐ Electric/Gas
- ☐ Electric/Telecommunications
- ☐ Electric/Water
- ☐ Electric/Water/Telecom.
- ☐ Electric/Water/Sewer
- ☐ Gas
- ☐ Railroad
- ☐ Sewer
- ☐ Telecommunications
- ☐ Transportation
- ☐ Water
- ☐ Water/Sewer
- ☐ Administrative Matter
- ☐ Other:

NATURE OF ACTION (Check all that apply)

- ☐ Affidavit
- ☐ Agreement
- ☐ Answer
- ☐ Appellate Review
- ☐ Application
- ☐ Brief
- ☐ Certificate
- ☐ Comments
- ☐ Complaint
- ☐ Consent Order
- ☐ Discovery
- ☐ Exhibit
- ☐ Expedited Consideration
- ☐ Interconnection Agreement
- ☐ Interconnection Amendment
- ☐ Late-Filed Exhibit
- ☐ Letter
- ☐ Memorandum
- ☐ Motion
- ☐ Objection
- ☐ Petition
- ☐ Petition for Reconsideration
- ☐ Petition for Rulemaking
- ☐ Petition for Rule to Show Cause
- ☐ Petition to Intervene
- ☐ Petition to Intervene Out of Time
- ☒ Prefiled Testimony
- ☐ Promotion
- ☐ Proposed Order
- ☐ Protest
- ☐ Publisher's Affidavit
- ☐ Report
- ☐ Request
- ☐ Request for Certification
- ☐ Request for Investigation
- ☐ Resale Agreement
- ☐ Resale Amendment
- ☐ Reservation Letter
- ☐ Response
- ☐ Response to Discovery
- ☐ Return to Petition
- ☐ Stipulation
- ☐ Subpoena
- ☐ Tariff
- ☐ Other:

STATE OF SOUTH CAROLINA

BEFORE THE PUBLIC SERVICE COMMISSION

DOCKET NO. 2007-358-E

In the Matter of: Application of Duke Energy Carolinas, LLC for Approval of Energy Efficiency Plan Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs	)	SURREBUTTAL TESTIMONY OF JOHN D. WILSON ON BEHALF OF ENVIRONMENTAL DEFENSE, THE SOUTH CAROLINA COASTAL CONSERVATION LEAGUE, SOUTHERN ALLIANCE FOR CLEAN ENERGY AND THE SOUTHERN ENVIRONMENTAL LAW CENTER

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND EMPLOYER.

A. My name is John D. Wilson. I am Director of Research for Southern Alliance for Clean Energy, 29 N. Market Street, Suite 409, Asheville, North Carolina.

Q. PLEASE DESCRIBE SOUTHERN ALLIANCE FOR CLEAN ENERGY.

A. Southern Alliance for Clean Energy ("SACE") is a non-profit, nonpartisan organization that promotes responsible energy choices that solve global warming problems and ensure clean, safe and healthy communities throughout the Southeast. We have offices and staff in Florida, Georgia, North Carolina, South Carolina, and Tennessee.

Q. PLEASE STATE BRIEFLY YOUR EDUCATION, BACKGROUND AND EXPERIENCE.

A. I graduated from Rice University in 1990 with a Bachelor of Arts degree in physics and history. I received a Masters in Public Policy Degree from the John F. Kennedy School of Government at Harvard University in 1992 with an emphasis in energy and environmental policy and economic and analytic methods.

Since 1992, I have worked in the private, non-profit and public sectors on a wide range of public policy issues, usually related to environmental and planning topics.

I became the Director of Research for the Southern Alliance for Clean Energy in 2007. I have participated in the North Carolina Climate Action Plan Advisory Group and the South Carolina Climate, Energy & Commerce Advisory Committee as an alternate for Dr. Stephen A. Smith, Executive Director of SACE, and as a member of various technical work groups dealing with energy supply and efficiency issues.

I have testified before the legislatures of Florida and Texas Legislature, the Texas Natural Resource Conservation Commission and the U.S. Environmental Protection Agency on numerous occasions. I have served on numerous state and local government advisory committees dealing with environmental regulation and local planning issues in Texas. I have been an invited speaker to a wide variety of academic, industry and government conferences on a number of environmental and planning related topics. Recommendations included in reports or comments I have provided have been included in laws passed by the Florida legislature as well as in rules and plans approved by the Texas Natural Resource Conservation Commission and the U.S. Environmental Protection Agency.

A copy of my resume is attached as Wilson Exhibit 1.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A. I am testifying on behalf of Environmental Defense ("ED"), the South Carolina Coastal Conservation League ("CCL"), SACE and the Southern Environmental Law Center ("SELC").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my surrebuttal testimony is to respond to portions of the rebuttal testimony of Duke Energy Carolinas, LLC ("Duke") Witnesses Cicchetti and Schultz. Specifically, I will respond to claims by these witnesses that are at odds with our interpretation of the Save-a-Watt application submitted by Duke.

Q. DR. CICCHETTI STATES THAT SAVE-A-WATT IS "DESIGNED TO HELP DUKE ENERGY CAROLINAS AND ITS CUSTOMERS LEAP AHEAD OF THE PACK." SIMILARLY, MR. SCHULTZ STATES THAT "DUKE IS COMMITTING TO ALL COST-EFFECTIVE ENERGY EFFICIENCY, AS DEFINED BY NAPEE." WHY

WOULD ED, CCL, SACE AND SELC BE OPPOSED TO A PROGRAM WITH SUCH IMPRESSIVE ASPIRATIONS?

A. We would certainly be supportive of an application that we believed would achieve these results. Yet the testimony of Mr. Schultz indicates that Duke will not, in fact, "leap ahead of the pack." Mr. Shultz cites an alternative and more forgiving NAPEE statement that seems to suggest that if Duke achieves its aspirations to achieve annual energy savings of slightly less than 0.25%, it will meet the *National Action Plan for Energy Efficiency*'s ("NAPEE"'s) criterion to be a "well designed efficiency program." Yet at 0.25%, Duke would be at the back of the pack behind more successful "well designed efficiency programs," programs that operate with cost recovery mechanisms that Mr. Schultz and Dr. Cicchetti disparage.

Q. ED, SACE AND SELC HAVE OPPOSED DUKE PROPOSALS TO BUILD BASELOAD GENERATION. WOULD SAVE-A-WATT PROVIDE DUKE WITH THE FINANCIAL INCENTIVE IT NEEDS TO FIND AN ALTERNATIVE TO COAL AND NUCLEAR PLANTS?

A. No, it appears that the overwhelming majority of the investment in the Save-a-Watt application is load management, targeted at avoiding the need to purchase peak capacity. Because the energy savings anticipated by Duke are so minimal, I do not expect Save-a-Watt to lead to significant changes in Duke's desire to construct additional baseload generation.

Q. WHY WOULDN'T SAVE-A-WATT ENCOURAGE DUKE TO DELAY OR CANCEL BASELOAD GENERATION PLANT CONSTRUCTION?

A. Once construction costs are included in the rate base, baseload generation plants represent relatively low avoided cost generation resources. My analysis indicates that to the extent that Save-a-Watt represents an incentive to pursue energy savings, those energy savings

will primarily offset generation resources with relatively high operating costs, i.e. "peaking" plants rather than baseload. This explains why Duke does not contradict itself by offering up both Save-a-Watt and new baseload nuclear and coal generation plans simultaneously.

Q. ARE SOUTH CAROLINA'S RELATIVELY LOW ELECTRICITY RATES A VALID EXCUSE OR EXPLANATION FOR WHY DUKE CANNOT ACHIEVE HIGHER RESULTS?

A. No. While I have not examined every energy efficiency program in the nation, it was not difficult to find a recent start-up program that achieved better results than aspired to by Duke. Idaho Power was compelled by its Commission to establish an energy efficiency program funded solely by cost recovery.

According to Idaho Power data, in 2006, its energy conservation costs were 1.8 cents per kWh to the utility and 4.2 cents per kWh in total cost to the utility and customer, compared to average electric rates of 4.6 cents per kWh. In its fifth full year of operation, Idaho Power offset over 0.5% of annual system sales.

In contrast to Idaho Power's fifth-year achievements of 0.5 percent, Duke expects to achieve annual energy savings of only 0.22 percent from programs that would be implemented in its fifth year of implementation according to Duke's most recent Integrated Resource Plan ("IRP"). This is illustrated in Table 1, below, and is also contrasted with the five-year forecast by Duke's consultants who performed the market potential study cited by Mr. Shultz.

Table 1: Comparison of Annual Energy Savings

Year	1	2	3	4	5
Save-a-Watt	0.13%	0.24%	0.23%	0.22%	0.22%
Duke's Consultants	0.12%	0.21%	0.29%	0.39%	0.42%

Idaho Power	0.14%	0.14%	0.15%	0.28%	0.52%

Note to Table 1: I have excluded the first years' data for Idaho Power because the year was incomplete and Idaho Power was responding to a commission order rather than initiating its own program.

In summary, I believe that Duke can achieve higher results than it would under Save-a-Watt.

Q. WHY DO YOU BELIEVE SAVE-A-WATT CANNOT "LEAD THE PACK" AND "ACHIEVE ALL COST-EFFECTIVE ENERGY EFFICIENCY"?

A. As defined by Duke, the design of Save-a-Watt fails to make all "cost-effective energy efficiency" financially attractive from either the utility's perspective or the customer's perspective. Furthermore, the Save-a-Watt design virtually ensures that Duke's share of net benefits of energy efficiency programs will exceed 100%. If Duke's share of net benefits exceeds 100%, then its customers, as a class, will be injured by this proposed energy efficiency mechanism. This is a clearly unsustainable result and, if approved, would ultimately lead to a backlash against Save-a-Watt in particular and energy efficiency in general.

Q. IS THERE A SIMPLE WAY TO DEMONSTRATE THAT SAVE-A-WATT WILL FAIL TO MAKE ALL COST-EFFECTIVE ENERGY EFFICIENCY FINANCIALLY ATTRACTIVE TO DUKE?

A. Yes. As explained by Duke Witness Schultz, when applying the utility test scores provided for Save-a-Watt programs, "A score of 1.0 would represent a break-even program where avoided costs are equal to total program costs." Since Duke's reimbursement is 90% of avoided costs, multiplying these scores by 90% provides a direct ratio of the revenue requirement for each program to its associated total costs (in net present value terms).

With the singular exception of the low-income weatherization program (which represents less than 3% of energy savings represented in Duke's application), it is requesting two to six times more revenue for its programs than it will incur in direct costs. Table 2 provides this "revenue requirement to program cost ratio."

Table 2: Revenue Requirements Compared to Save-a-Watt Program Costs

Energy Savings Programs	**Utility Test Score**	**Ratio of Revenue Requirements to Program Cost**
Residential Energy Assessments	2.48	2.23
Smart $aver® for Residential Customers	3.07	2.76
Low Income Services Agency Kits	4.94	4.45
Low Income Weatherization	0.29	0.26
Energy Efficiency Education Program for Schools	2.81	2.53
Smart $aver® for Non-Residential Customers	2.53	2.28
Load Shifting Programs		
Residential Power Manager	6.46	5.81
Non-Residential PowerShare®	3.85	3.47

Stated another way, Duke is requesting two to six times more revenue for its programs than Idaho Power would have received during the time it offset over 0.5% of its annual system sales.

If Save-a-Watt truly represented an incentive to pursue "all cost-effective energy efficiency, as defined by NAPEE," then one would expect to see at least several substantial

programs with avoided costs only slightly greater than total program costs. Conservation supply curves, such as those illustrated in the Forefront report (figures 21 and 22) illustrate this point.

Q. WHAT IS THE FUNDAMENTAL REASON THAT SAVE-A-WATT DOES NOT PROVIDE DUKE WITH AN INCENTIVE TO PURSUE ALL COST-EFFECTIVE ENERGY EFFICIENCY, AT LEAST UP TO 90% OF AVOIDED COSTS?

A. The fundamental issue is that Duke's earnings are affected by the impact of what are typically called "net lost revenues."

In my review of Duke's testimony, I have found nothing to support the notion that Save-a-Watt is immune from the earnings impact of "net lost revenues." At this point in my testimony, I will simply assume that "net lost revenues" can be a factor affecting Save-a-Watt finances.

Q. WHAT IS THE FINANCIAL IMPACT OF NET LOST REVENUES UNDER SAVE-A-WATT?

A. The financial impact of Save-a-Watt can be expressed as:

(A) Incremental earnings = SaW Revenues – SaW Costs – Net Lost Revenues

In the absence of a general rate case (testimony and evidence submitted by Duke strongly suggests that Duke is adverse to a general rate case)

(B) Net Lost Revenues = Lost Margins – Avoided Costs

Since fuel costs are trued-up in an annual review in South Carolina, Equation (B) only considers capacity-related margins and costs[1]. Lost margins are the revenues (net of free rider effects) that a utility does not collect due to implementation of an energy conservation measure.

It is necessary to note that the "avoided costs" in net lost revenues are slightly different than the "avoided costs" that are the essential component of the proposed Save-a-Watt revenue

[1] I am assuming that "Avoided Production Costs" are roughly or exactly equivalent to the fuel-related costs included in the annual true-up.

requirement. Duke proposes that for each vintage year, its "avoided costs" be based on its current IRP avoided cost forecast. In contrast, the "avoided costs" that are a component of net lost revenues are the actual cost savings experienced by Duke as a result of not being required to meet a unit of capacity or energy demand. For purposes of this analysis, I will assume that Duke is able to forecast "avoided costs" accurately and that there is no measurable difference between "avoided costs" as used in the Save-a-Watt revenue requirement, and "avoided costs" as experienced due to the effectiveness of Save-a-Watt programs.

To demonstrate the unusual financial impacts of Save-a-Watt, I will define the key financial terms as follows:

E = Incremental utility earnings

AC = Avoided costs, non-fuel

AF = Avoided costs, fuel

SC = Save-a-Watt program costs

BR = Lost base (non-fuel) revenues

PC = Participant costs

CB = Net customer benefits

Thus, equations (A) and (B) may be restated as:

(C) E = [90% x (AC + AF)] - [SC] - [BR - AC]

(D) E = 90% x AF + 190% x AC - SC - BR

In contrast, one can represent incremental earnings by programs that score higher than 1.0 in the utility cost test ("avoided costs being greater than total program costs") as follows, designating this alternative concept of incremental earnings as E':

(E) E' = [AC + AF] - SC

The difference between these two concepts of earnings is then:

(F) E - E' =[90% x AC] - [10% x AF] - BR

Thus, only in the highly coincidental circumstances where equation (F) solves to zero can it be said that the financial incentives offered by Save-a-Watt are the same as "avoided costs is greater than total program costs" except under highly coincidental circumstances. This conclusion is all one needs to reach to understand why Save-a-Watt does not align Duke's actual financial incentives with its stated commitment to "all cost-effective energy efficiency."

Furthermore, in the case of load shifting programs (which Duke represents as having no lost margins[2]), there are almost no circumstances in which Duke's financial incentives match its definition of cost-effectiveness. Thus, for the case of load shifting, equation (F) becomes:

(G) E - E' = [90% x AC] - [10% x AF]

Only if the avoided cost of fuel is equal to 9 times the avoided cost of capacity would Mr. Schultz's definition of cost-effectiveness apply to load shifting programs. Reasonably assuming that this is never the case, Save-a-Watt guarantees earnings for load shifting that are even higher than suggested by the utility cost test.

Q. YOU CONCLUDE THAT NET LOST REVENUES ARE A FUNDAMENTAL IMPEDIMENT TO ACHIEVING ALL COST-EFFECTIVE ENERGY EFFICIENCY, AND THAT DUKE IS INCORRECT WHEN IT DESCRIBES ITS FINANCIAL INCENTIVES AS SIMPLY "AVOIDED COSTS IS GREATER THAN TOTAL PROGRAM COSTS." ARE THERE ANY OTHER EFFECTS THAT NET LOST REVENUES HAVE BESIDES MAKING SOME ENERGY EFFICIENCY FINANCIALLY UNATTRACTIVE TO DUKE?

[2] Load shifting programs may have lost margins, but since Duke Energy does not represent these in its confidential data it appears that these are evaluated as if they are program costs.

A. Yes, as a result of net lost revenues, Duke requires far more revenues than program costs. This will create a disconnect for the public when it compares its own expectations for program costs with Duke's revenue requirements. The implications of this issue are discussed in Mr. Gilligan's testimony.

I have reached this conclusion by further examining Equations (F) and (G), which illustrate that Save-a-Watt would create two preferences.

- First, Duke would prefer "energy efficiency" for programs whose load shapes have high avoided capacity costs. Under fixed rate regulation, Duke does not fully recover high capacity costs, such as market-rate power purchases (which are an important business consideration, as evidenced by Duke's care to avoid disclosing its avoided cost structure). This aspect of Save-a-Watt represents an incentive to control costs in a way that benefits Duke's shareholders alone.
- Second, Duke would prefer "energy efficiency" for programs whose load shapes have low avoided fuel-related costs. Because of the annual fuel cost true-up, customers bear all the risk for fuel-related costs. This aspect of Save-a-Watt represents a disincentive to focus on programs with high avoided fuel costs in a way that harms customer interests alone.

Furthermore, returning to Equations (C) and (D), lost margins (base rate revenues) continue to represent a "cost" that is in addition to the actual program costs of Save-a-Watt. In my opinion, this conclusively proves why the revenue requirement to program cost ratio, described above, will remain well above 1.0 for Save-a-Watt programs (other than the low income program highlighted by Mr. Schultz).

Q. EARLIER YOU STATED THAT YOU HAVE DETERMINED THAT THE SAVE-A-WATT DESIGN VIRTUALLY ENSURES THAT DUKE'S SHARE OF NET BENEFITS OF ENERGY EFFICIENCY PROGRAMS WILL EXCEED 100%, AND THAT ITS CUSTOMERS, AS A CLASS, WOULD BE INJURED BY THIS PROPOSED MECHANISM FOR PROVIDING ENERGY EFFICIENCY. PLEASE EXPLAIN THIS STATEMENT.

A. The issue of net benefits is central to this analysis because the actual cost of delivering energy efficiency is, by definition of "efficiency," less than the cost of generation. An energy efficiency program with a total resource cost test score greater than 1.0 can be said to have net benefits.

The increased earnings described by Equation (C) represent the utility share of net benefits. But to determine total benefits, it is also necessary to describe the customer's share of net benefits.

(H) Net customer benefits = Avoided bill expenses - SaW Revenues - Participant Costs

Avoided bill expenses are the same as the company's lost base (non-fuel) revenues plus the fuel-related revenues, which are assumed to be the same as the avoided fuel-related costs.

(I) Avoided bill expenses = lost base (non-fuel) revenues + avoided fuel-related costs

Using the same variables as above, equations (A) and (B) may be restated as:

(J) CB = [BR + AF] - [90% x (AC + AF)] – [PC]

(K) CB = BR + [10% x AF] – [90% x AC] - PC

The utility share of net benefits is simply:

(L)

$$E$$

$$E + CB$$

(K)

$$\frac{190\% \times AC + 90\% \times AF - SC - BR}{AC + AF - SC - PC}$$

(M)

$$\frac{(AF + AC - SC) + (90\% \times AC - 10\% \times AF - BR)}{(AF + AC - SC) + (-PC)}$$

As long as the condition

(N) $(90\% \times AC - 10\% \times AF - BR) > (-PC)$

is satisfied, then Duke will receive over 100% of net benefits under Save-a-Watt. Customers will be "injured" by receiving less than 0% of net benefits unless either of these unlikely conditions is satisfied:

- AC is very small relative to AF (and equation (C) demonstrates that such programs will not be in Duke's financial interest), or
- PC is very large and negative (very large incentive payments are not a typical characteristic of large energy savings programs).

This demonstrates that a rate case, decoupling or some other mechanism is necessary in order to offer *any* net benefits to customers using Save-a-Watt.

This result will seem surprising to those whose primary experience with "net lost revenues" is in a state that addresses "net lost revenues" in the context of a energy conservation programs whose costs are held below average costs (in the case of programs with energy savings,

this upper limit would be roughly equivalent to rates). Save-a-Watt presents a novel circumstance, in that the term "net lost revenues" can be somewhat misleading. **In fact, there can be "net gained revenues" in the Save-a-Watt proposal because there is no revenue constraint. Since the avoided costs associated with a particular load shape may exceed rates that are set at approximately average avoided costs, it is a straightforward observation that the revenue requirement associated with individual Save-a-Watt programs may exceed customer rates.**

Q. DO YOU AGREE WITH MR. ROGERS' TESTIMONY THAT SAVE-A-WATT WILL AFFORD HIS COMPANY "THE OPPORTUNITY TO EARN COMPARABLE EARNINGS AS IT WOULD WITH A SUPPLY-SIDE INVESTMENT?"

A. No, the earnings opportunities are <u>much greater</u>. As noted in the testimony of Mr. Farmer, the revenue requirement includes the usual cost of capital plus the approved earnings potential. Equation (C) above represents the incremental utility earnings. Duke is proposing that it should have an opportunity to earn incremental earnings because of greater risks, as described in the testimony of Mr. Shultz.

The *incremental* earnings rate can be represented as:

(O)

$$\frac{[190\% \times AC] + [90\% \times AF] - SC - BR}{SC}$$

It is evident that the incremental earnings rate for Save-a-Watt can easily approach or exceed 100% of the incremental earnings since actual values of AC, AF, SC and BR are of similar magnitudes. It is also evident that it will be very difficult for Duke to lose money. Compared to

the cost recovery based programs that Duke dismisses, Save-a-Watt may be even less likely to result in unintentional losses.

In comparison, the *incremental* earnings rate for the generation that the Save-a-Watt program "replaces" can be represented by:

(P)

$$\frac{BR - AC}{AC}$$

For the average generation resource, the *incremental* earnings rate will be quite close to zero.

In conclusion, I do not agree that *incremental* earnings on the order of 100% can be considered comparable to earning rates allowed for supply-side investment.

Q. WHAT WOULD BE THE IMPACT OF A RATE CASE ON YOUR CONCLUSIONS?

A. A rate case should shift some of the net benefits from Duke to its customers, reducing its earnings rate, and increasing the financial incentive to pursue "energy efficiency" as defined by Duke, particularly conservation. However, the concerns I have described above cannot be fully addressed by a rate case or even many rate cases.

If one takes the most extreme example of a rate case – decoupling – then the impact can be represented by modifying Equation (A) to completely remove *Net Lost Revenues*. It is a straightforward exercise to revise the analysis above to reflect this change. I will summarize by presenting two findings.

First, the utility share of net benefits, previously described by Equation (M), would instead be:

(Q)

$$\frac{(AF + AC - SC) - 10\% \times (AC + AF)}{(AF + AC - SC) - PC}$$

In contrast to the "no rate case" assumption we have drawn from the testimony of Duke, the "decoupling" assumption would make it quite unlikely that Duke would ever receive over 100% of net benefits under Save-a-Watt, as to receive such a large share of benefits, the condition

(R) $10\% \times (AC + AF) < PC$

would need to be satisfied. Participant costs are typically relatively quite small for conservation programs. Thus, this condition will probably only be satisfied for some load shifting programs, in which Duke would "only" receive a substantial share of the benefits.

For conservation programs, Duke continues to have the opportunity to receive a very large share of net benefits under this decoupling assumption. If we assume that participant costs are negligibly small, and represent the Utility Test as UT, then Equation (Q) can be simplified to:

(Q)

$$\frac{(90\% \times UT) - 1}{(UT - 1)}$$

For Utility Test scores in the range presented by Duke of 2 to 6, the share of net benefits received by Duke would be 80 – 88%. Thus, even under the decoupling assumption (which Duke is not requesting), customers would receive less than 1/5 of the net benefits of energy conservation.

Q. IN YOUR REVIEW OF CONFIDENTIAL DATA PROVIDED BY DUKE, DID YOU FIND THAT THE DATA SUPPORTED OR CONTRADICTED YOUR FINDINGS?

A. My findings are supported by the confidential data. With the exception of the low income weatherization program, the confidential data indicate that the incremental earnings, net benefits, and earnings rates are consistent with my analysis.

I also noted that in Duke's non-confidential response to Wal-Mart Data Request 1-8, "the hours in which the energy savings measure is activated is targeted towards higher avoided cost hours." I interpret this to mean that Duke's programs are likely to have missed cost-effective energy conservation opportunities during lower avoided cost hours.

Q. DOES DUKE PROVIDE ANY NON-CONFIDENTIAL TESTIMONY THAT CONTRADICTS YOUR CONCLUSIONS?

A. Yes, there are some vague statements that suggest a different outcome. Dr. Cicchetti states that, "the two solutions (new generation and conservation) to meeting Duke customers' energy needs would treat shareholders similarly and regulated revenue requirements would be less." However, I have not located any specific evidence in Duke's application, testimony, or confidential data that supports the conclusion that Duke's total revenue requirements would be less with Save-a-Watt than without it.

Dr. Cicchetti appears to base his conclusion on the presumption that "traditional supply-side choices add more dollars to a utility's total annual revenue requirements." However, this conclusion is not supported historically.

As discussed by several witnesses, there has not been a South Carolina rate case for Duke in the past 17 years. During this time, Duke has added new generation sources or power contracts, particularly to meet peak demand. Yet none of these additional resources have been

the basis of a request by Duke to add more dollars to its "total annual revenue requirements," contradicting Dr. Cicchetti's opinion.

Furthermore, although Duke is planning new baseload generation sources, its forecasts for Save-a-Watt appear to assume that there will be no future rate cases, suggesting that Duke may not intend to request a rate increase. As noted by Dr. Atkins' testimony, although Duke initially requested a rate increase in its recent North Carolina rate case, it ended up with a rate decrease.

Thus, while it is certainly possible that Duke's total revenue requirements may be less with Save-a-Watt than without it, this has not yet been established. **My review of Duke's application and supporting material leads me to the conclusion that there will be very little reduction in total revenue requirements, and that there could well be an increase in total revenue requirements.**

Q. DOES DUKE PROVIDE ANY TESTIMONY THAT SUGGESTS THAT YOUR ANALYSIS <u>UNDERESTIMATES</u> POTENTIAL EARNINGS AND NET BENEFITS FOR THE COMPANY?

A. Yes, Dr. Cicchetti appears to believe that, due to the incentive to reduce utility costs, it is likely that Duke shareholders will profit at a higher-than-projected rate and that customers will benefit at a lower-than-projected rate. Dr. Cicchetti appears to present this view when he states, "what Dr. Nichols calls high-cost efficiency would actually become lower cost for the Company if and when it convinces, as it should, participating customers to contribute some of the costs for which they would benefit with lower monthly utility bills."

In other words, based on my finding that Save-a-Watt would result in customers receiving less than zero percent of net benefits, **actually spending more than they benefit**, the injury to customers could actually increase over time as Duke's share of net benefit increases.

Q. DO YOU AGREE WITH DR. CICCHETTI'S TESTIMONY THAT SAVE-A-WATT IS THE BEST WAY TO ENSURE THAT ENERGY EFFICIENCY PROGRAMS "CAN BE SUSTAINED AFTER PUBLIC INTEREST WANES"?

A. No, I believe that Save-a-Watt would likely trigger a backlash against energy efficiency in general and Save-a-Watt in particular. The cumulative rate impacts, over several years, of the Save-a-Watt amortized revenues, will be quite large. As the rate impacts escalate over time, or "cascade," this will add to the perception by regulators and ratepayers that Save-a-Watt overcompensates Duke.

Q. ARE YOU AWARE OF ANY CIRCUMSTANCES WHERE THIS HAS OCCURRED IN THE PAST?

Yes. In 1999, Xcel/Northern States Power's lost revenue recovery rider was rescinded by the Minnesota Public Utilities Commission (Docket E-002/M-99-419) despite the support of the Izaak Walton League of America and the Center for Energy and Environment. Large commercial and industrial customers objected to increasing rate impacts for energy efficiency in the context of decreasing utility investment in energy efficiency. The use of a "lost revenue adjustment mechanisms" that involved highly complex calculations, combined with the amortization, resulted in a highly controversial rate impact and loss of the "regulatory asset" related to the utility's investment in energy efficiency.

In my opinion, this precedent has special implications for the Duke Save-a-Watt proposal. This precedent should be viewed as a caution against any energy efficiency financing system that lacks clarity, transparency, and evident fairness.

Q. DO YOU SUPPORT THE RECOMMENDATIONS OF OTHER WITNESSES APPEARING ON BEHALF OF INTERVENERS SACE, SELC, CCL AND ED?

A. Yes. It is my hope that Duke will propose an improved approach and truly "lead the pack" in achieving energy savings. I would personally encourage Duke to set a goal of 1% of 2015 energy sales avoided by programs implemented in that year, with corresponding interim targets. SACE is willing to assist in such an effort.

Q. WHAT WOULD BE THE DIRECT BENEFITS OF ACHIEVING 1% PER YEAR ENERGY SAVINGS?

A. When Duke reaches a total of 5% reduction in electricity sales, its customers will see their bills reduced by at least 100 million dollars. If Duke achieved the 1% target by 2015, then in 2016 customers could expect to see this level of annual savings in their bills, less whatever energy efficiency revenue requirement is approved by the Commission.

Q. ARE YOU CONVINCED BY MR. SCHULTZ'S RESPONSE TO DR. NICHOLS' CRITIQUE OF INCENTIVES FOR LOAD MANAGEMENT PROGRAMS?

A. No, I do not believe that it is in the public interest for incentives for load management programs to exceed program cost recovery plus earnings equivalent to supply-side resources. Load management, defined here as rate programs or other initiatives that aim to modify the time pattern with which consumers use electricity, do not result in energy savings, they primarily avoid costs that are the responsibility of the utility because they are built into the basis for existing fixed rates. By requesting an added incentive to pursue load management, it appears to

me that Duke is claiming that the current regulatory structure does not adequately value load management programs.

Q. HAS DUKE PREVIOUSLY ARGUED THAT LOAD MANAGEMENT PROGRAMS (THOSE LACKING A SUBSTANTIAL ENERGY SAVINGS COMPONENT) ARE PROPERLY VALUED BY METHODS APPROVED BY A UTILITY COMMISSION?

A. Yes, in the following excerpt from Duke Energy Carolinas, LLC and Progress Energy Carolinas, Inc.'s Rebuttal Testimony of Julius A. Wright in North Carolina Utilities Commission Docket No. E-100, Sub 106 dated July 18, 2007, Dr. Wright explains that "interruptible load" specifically, and "all types of generation alternatives" generally, are "properly value[d]" using the peaker methodology.

> The avoided capital cost is determined using the economic principles associated with long run generation system planning. To explain, consider the planning process. For a growing utility a system planner must understand and properly account for the various considerations noted above while looking into the future and making comparisons between constructing a baseload plant, an intermediate plant, or a peaker plant, or perhaps purchasing power in the wholesale market. The most economical way to meet short duration peaks is with a peaker, or peaking type capacity purchases, or even interruptible load. However, over a planning horizon, at some point in time it becomes less expensive to add a baseload plant than to continue to increase the running time of a peaker plant. Essentially, the higher fuel costs of the peaker plant can be offset by the lower fuel costs of the baseload plant, even with its higher capacity costs. This point is referred to as the "crossover point" or optimal point.
>
> Consequently, with respect to avoided capacity costs, the peaker methodology reflects optimal long range planning and given its use of marginal energy costs will properly value all types of generation alternatives.

Q. WHAT DO YOU CONCLUDE FROM REVIEWING DR. WRIGHT'S TESTIMONY?

A. It appears to me that Duke already has the opportunity to pursue all cost-effective load management under approved base and fuel-cost electricity rates. To the extent that these rates or structure do not provide the appropriate incentives, Duke has the opportunity to request a general rate case or revisions to its fuel-cost rider.

Q. DOES THAT CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

John D. Wilson **Director of Research, Southern Alliance for Clean Energy**

29 North Market Street, Suite 409 828-254-6776
Asheville, NC 28801

wilson@cleanenergy.org

EXPERIENCE

Southern Alliance for Clean Energy

Director of Research, Asheville, North Carolina, 2007 – present
http://www.cleanenergy.org/

Galveston-Houston Association for Smog Prevention

Executive Director, Houston, Texas, 2001 – 2006
http://www.ghasp.org/

- Member, Regional Air Quality Planning Committee
- Member, Transportation Policy Technical Advisory Committee
- Member, Steering Committee, TCEQ Interim Science Committee
- Published over a dozen reports
- In the media over 250 times
- Awards & recognition from the City of Houston, *Houston Press*, and environmental groups
- First executive director, grew staff to three full time plus several part time & consulting

The Goodman Corporation

Senior Associate, Houston, Texas, 2000 – 2001
http://www.thegoodmancorp.com/

- Project Manager, Houston Main Street Corridor
- Project Manager, Houston Downtown Circulation Study
- Project Manager, Austin Corridor Planning
- Project Manager, Ft. Worth Berry Street Corridor Initiative

Florida Legislature

Senior Legislative Analyst and Technology Projects Coordinator, Office of Program Policy Analysis and Government Accountability, Tallahassee, Florida, 1997- 1999
http://www.oppaga.state.fl.us/

- Coordinator, Florida Government Accountability Report, 1999
- Coordinator, Project Management Software Implementation, 1999
- Creator and Editor, *Florida Monitor Weekly*, 1998 - 99
- Author or team member for reports on water supply policy, environmental permitting, community development corporations, school district financial management and other issues – most recommendations implemented by the 1998 and 1999 Florida Legislatures

Florida State University

Environmental Management Consultant, Tallahassee, Florida, 1997
http://www.pepps.fsu.edu/FACT97/index.html

- Project staff, *Florida Assessment of Coastal Trends*, 1997

Houston Advanced Research Center

Research Associate, Center for Global Studies, Woodlands, Texas, 1992 - 96
http://www.harc.edu/

- Performance Award, 1995
- Coordinator, Houston Environmental Foresight, 1993 - 96
- Coordinator, Rio Grande/Rio Bravo Basin Initiative, 1992 - 94
- Secretary, Task Force on Climate Change in Texas, 1992 - 94
- Researcher, *Policy Options: Responding to Climate Change in Texas*, 1992 - 93

US Environmental Protection Agency

Student Assistant, Office of Policy, Planning and Evaluation, Washington, DC, 1991

- Special Achievement Award, 1991

EDUCATION

Harvard University

Master in Public Policy, John F. Kennedy School of Government, 1992

- Concentration areas: Environment, negotiation, economic and analytic methods

Rice University

Bachelor of Arts, conferred cum laude, 1990

- Majors: Physics (with honors) and history

Additional Training and Experience

Spanish language; Advanced computer skills; Certified Master Wildlife Conservationist, Leon County Extension Service

CERTIFICATE OF SERVICE

I hereby certify that the following persons have been served with the Southern Environmental Law Center (SELC), Southern Alliance for Clean Energy (SACE), the South Carolina Coastal Conservation League (CCL), and Environmental Defense (ED) surrebuttal testimony of John D. Wilson:

Catherine E. Heigel , Assistant General Counsel
Duke Energy Carolinas, LLC
Post Office Box 1006, EC03T
Charlotte, NC, 28201-1066
Email: ceheigel@duke-energy.com

Jeremy Hodges, Counsel
Nelson Mullins Riley & Scarborough, LLP
1320 Main Street, 17th Floor
Columbia, SC 29201
Email: jeremy.hodges@nelsonmullins.com

Nanette S. Edwards, Counsel
Office of Regulatory Staff
Post Office Box 11263
Columbia, SC, 29211
Email: nsedwar@regstaff.sc.gov

Scott Elliot, Counsel
Elliott & Elliott, P.A.
721 Olive Street
Columbia, SC, 29205
Email: selliott@elliottlaw.us

Frank R. Ellerbe III , Counselor
Robinson, McFadden & Moore, P.C.
P.O. Box 944
Columbia, SC, 29202
Email: fellerbe@robinsonlaw.com

Bonnie D. Shealy , Counsel
Robinson, McFadden & Moore, P.C.
Post Office Box 944
Columbia, SC, 29202
Email: bshealy@robinsonlaw.com

Lawrence B. Somers, Assistant General Counsel
Duke Power
Post Office Box 1244, PB05E
Charlotte, NC 28201-1244

James H. Jeffries IV, Counsel
Moore & Van Allen PLLC
Bank of America Corporate Center
100 North Tryon Street, Suite 4700
Charlotte, NC 28202-4003
jimjeffries@mvalaw.com

Robert E. Tyson, Jr., Counsel
Sowell Gray Stepp & Laffitte, LLP
Post Office Box 11449
Columbia, SC 29211

This 28th day of January, 2008.

_____
S/ Kate Double
Administrative Legal Assistant